

SECTION III—REMARKS

This amendment is submitted in response to the Office Action mailed November 15, 2006, for the above-noted patent application. Claims 1, 7, 10, 23, 30, 31 and 32 are amended, and claims 1-14 and 23-33 remain pending in the application. Applicants respectfully request reconsideration of the application and allowance of all pending claims in view of the following remarks.

Claim Objections

The Examiner objected to claims 2-6, 11-13 and 24-27 for being dependent on rejected base claims, but indicated that these claims would be allowable if re-written in independent form to include all the limitations of their base claims and any intervening claims.

As explained below, Applicants believe that, as amended, the base claims from which these objected claims depend are allowable. Applicants therefore respectfully decline to re-write these claims in independent form at this time.

Rejections Under 35 U.S.C. § 103

The Examiner rejected claims 1, 7-10, 14, 23 and 28-33 under 35 U.S.C § 103(a) as obvious in view of, and therefore unpatentable over, combinations of the following references: U.S. Patent No. 5,212,371 to Wike Jr. *et al.* (“Wike”); U.S. Patent No. 5,581,071 to Chen *et al.* (“Chen”); and European Patent No. EP1128315 to Rigoni *et al.* (“Rigoni”).

Applicants respectfully traverse the Examiner’s rejections. To establish a *prima facie* case of obviousness, the Examiner must establish that three criteria are met: (1) the prior art references must teach or suggest all the claim limitations; (2) some suggestion or motivation to combine the references must be found in the prior art; and (3) there must be a reasonable expectation of success. MPEP § 2143. For at least the reasons explained below, Applicants respectfully submit that the Examiner has not established a *prima facie* case of obviousness.

Claim 1 was rejected as unpatentable over *Wike* in view of *Chen*. As amended, claim 1 recites an apparatus combination including:

a base capable of receiving a camera including an image capture lens; and

a projector coupled to the base and adapted to project *a plurality of beams of light* onto a plane positioned at a focus distance from the base, wherein the projections of the beams of light on the plane are geometric shapes, and wherein *an intersection of the geometric shapes is at the center of the field of view of the image capture lens* independent of the distance between the image capture lens and the plane when the image capture lens is installed on the base.

(italics added). The Examiner alleges that *Wike* discloses every element and limitation of the claim except for teaching that the bar-code scanner is in the form of a camera. To make up for this deficiency in *Wike*, the Examiner cites *Chen* for its alleged disclosure that a bar-code scanner can use a CCD camera and concludes that it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine *Wike* with *Chen* to arrive at the claimed invention.

Applicants respectfully disagree. In addition to not disclosing a bar-code scanner in the form of a camera, *Wike* fails to disclose other elements of the claim. First, although *Wike*'s abstract refers to the scanner emitting beams (plural), the specification and drawings clearly show that, despite what the abstract says, the *Wike* scanner emits only a single beam that is scanned to form the patterns shown in Figure 4. *Wike* discloses the following about the construction of the scanner:

Referring to the drawings, FIG. 2 is a cross-sectional view of the assembled scanning unit 26 while FIG. 3 is an exploded perspective view of the scanning unit. As shown in those figures, the frame support member 48, which may be molded of any type of a shock resistant plastic materials such as polycarbonate, includes a plurality of latching portions 62. Mounted within the support member 48 is a

motor 64. Journaled within the motor by bearings 66 (FIG. 2) is a hollow drive shaft 68 extending through the motor 64. Mounted within the rear extension portion 38 of the frame support member 48 is a brass laser diode support member 46 which supports the laser diode 45 and a collimating and focusing lens member 70, both of which are in alignment with the spin axis 72 of the drive shaft 68. The diode 45 outputs a diverging light beam which is collimated and focused on a reference plane (not shown) in front of the scanning unit by the lens member 70. A circular aperture stop 74 positioned adjacent the lens member 70 has a cross-section which is smaller than the lens member 70 for controlling the size of the laser light beam projected at the reference plane in a manner that is well known in the art..

(col. 3, lines 42-64; underlining added). Going on to explain the operation of the scanner, *Wike* indicates that:

The operation of the laser diode 45 will output a narrow laser light beam along the spin axis 72 of the scanning unit 26. The laser light beam will be projected through the bore 98 located in the drive shaft 68 where it impacts on the rotating deflecting mirror surface 86. The light beam designated as 100 will be deflected radially outwardly by the mirror surface 86 to impact on the cylindrical array of mirrors 78 which in turn deflect the light beam in a generally downward direction towards the deflecting mirror surface 88 of the deflecting member 84. The light beams impacting on the deflecting surface 88 will be deflected in a generally horizontal forward direction through the acrylic face member 34 forming a multi-line scanning pattern 106 (FIG. 4) for scanning a coded bar code label (not shown) positioned adjacent the front portion of the bar code scanner 20. The scattered light beams reflected from the scanned bar code label are detected by the collection lens member 94 and transmitted to the detector member 96 which converts the received light beams into electrical signals in a manner that is well known in the art.

(col. 4, lines 28-48; underlining added). *Wike* repeatedly refers to an emitted beam (singular), and thus discloses that only a single beam is emitted by scanner 20. That *Wike's* scanner emits only a single beam is reinforced by the fact that it discloses no elements that would allow the emissions of laser diode 45 to be split into more than one beam. To the extent the specification uses the word beams (plural), it appears to

erroneously refer to the individual elements of scanning pattern 106 (see Figure 4). *Wike* therefore cannot disclose, teach or suggest a combination including a projector coupled to the base and adapted to project “a plurality of beams of light” onto a plane. *Chen* also does not disclose such a limitation, so even if *Wike* were combined with *Chen* the combined references would not obviate the claim.

Second, *Wike* discloses that the return signal from the bar code is captured by lenses 94 and detectors 96. Even if *Wike* did emit a plurality of light beams—which, as discussed above, it doesn’t—and even if detectors 96 were replaced with the CCD taught by *Chen*, *Wike* teaches that the lines in multi-line scanning pattern 106 would intersect at the axis 72, and this intersection would therefore not be at the center of the field of view of either lens 94. *Wike* therefore cannot disclose, teach or suggest a combination wherein “an intersection of the geometric shapes is at the center of the field of view of the lens.” *Chen* also does not disclose such a limitation, so even if *Wike* were combined with *Chen* the combined references would not obviate the claim.

In addition to the fact that *Wike* and *Chen* do not disclose every element and limitation of the claim, there is also no motivation to combine *Wike* with *Chen* as suggested by the Examiner. In discussing the rejection of claim 7, the Examiner appears to suggest that focusing lens 70 could be used as an image capture lens. *Wike*, however, discloses that the sole function of focusing lens 70 is to collimate the beam of light emitted by laser diode 45, and therefore does not disclose, teach or suggest that focusing lens can or should be used for any other purpose. Moreover, if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. MPEP § 2143.01 (V); *In re Gordon*, 733 F.2d 900, (Fed. Cir. 1984). Focusing lens 70 could not be used as an image capture lens because that would require laser diode 45 to be replaced with a CCD. If laser diode 45 were replaced with a CCD, proper operation of the scanner would require a light source to be put elsewhere along axis 72, but that would result in either the light source blocking the CCD or the CCD blocking the light source, thus destroying the scanner’s function.

For at least the reasons above, Applicants submit that the combination of *Wike* and *Chen* cannot obviate the claim and respectfully request withdrawal of the rejection and allowance of the claim.

Claim 10 was rejected as unpatentable over *Wike* in view of *Chen*. As amended, claim 10 recites a process combination including:

projecting a first light beam onto a plane, wherein the projection of the first light beam on the plane is a first geometric shape;

projecting a second light beam onto the plane, wherein the projection of the second light beam on the plane is a second geometric shape; and

aligning the first and second beams such that an intersection of the first and second geometric shapes is at the center of the field of view of an image capture lens of a camera, independently of the distance between the image capture lens and the plane.

(italics added). By analogy to the discussion above for claim 1, Applicants submit that *Wike* and *Chen*, when combined, cannot obviate the recited combination. Applicants therefore respectfully request withdrawal of the rejection and allowance of the claim.

Claim 23 was rejected as unpatentable over *Wike* in view of *Rigoni*. As amended, claim 23 recites an apparatus combination including:

a base capable of receiving an image processor and
a camera including an image capture lens;

a projector coupled to the base and adapted to
project a plurality of beams of light onto a plane positioned at a focus distance from the lens, wherein the projections of the beams of light on the plane are geometric shapes, and wherein an intersection of the geometric shapes is at the center of the field of view of the image capture lens

independent of distance between the image capture lens and the plane when the image capture lens is installed on the base; and

a confirmation projector coupled to the image processor, wherein the projector projects a confirmation beam onto the plane when the image processor signals the confirmation projector that the image processor has processed the image.

(italics added). As discussed above for claim 1, Applicants submit that *Wike* does not disclose various elements recited in the claim. Therefore, even when *Wike* is combined with *Rigoni*, the combined references cannot obviate the combination recited in the claim. Applicants therefore respectfully request withdrawal of the rejection and allowance of the claim.

Claim 30 was rejected as unpatentable over *Wike* in view of *Rigoni*. As amended, claim 30 recites an apparatus combination including:

a base capable of receiving a camera including an image capture lens;

an image processor capable of being coupled to the camera for processing an image of a target captured by the camera;

a projector coupled to the camera and adapted to project a plurality of beams of light onto a plane positioned at a focus distance from the image capture lens, wherein the projections of the beams of light on the plane are in the shape of bars, and wherein an intersection of the bars is at the center of the field of view of the image capture lens when installed on the base; and

a confirmation projector coupled to the image processor, wherein the projector emits an unfocused

confirmation beam onto the plane of the target when the image processor signals the confirmation projector that the image processor has processed the image.

(italics added). As discussed above for claim 23, Applicants submit that *Wike* does not disclose various elements recited in the claim. Therefore, even when *Wike* is combined with *Rigoni*, the combined references cannot obviate the combination recited in the claim. Applicants therefore respectfully request withdrawal of the rejection and allowance of the claim.

Claim 32 was rejected as unpatentable over *Wike* in view of *Rigoni*. As amended, claim 32 recites a process combination including:

projecting a first light beam onto a plane, wherein the projection of the first light beam on the plane is in the shape of a first bar;

projecting a second light beam onto the plane, wherein the projection of the second light beam on the plane is in the shape of a second bar;

aligning the first and second beams such that an intersection of the bars is at the center of the field of view of an image capture lens of a camera, independently of the distance between the lens and the plane; and

capturing an image of a target on the plane using the camera;

processing the image captured by the camera using an image processor; and

projecting an unfocused confirmation beam onto the plane when the image processor signals to the confirmation projector that the image processor has processed the image.

(italics added). As discussed above for claim 23, Applicants submit that *Wike* does not disclose various elements recited in the claim. Therefore, even when *Wike* is combined

with *Rigoni*, the combined references cannot obviate the combination recited in the claim. Applicants therefore respectfully request withdrawal of the rejection and allowance of the claim.

Regarding claims 2-9, 11-14, 24-29, 31 and 33 if an independent claim is non-obvious, then any claim depending therefrom is also non-obvious. MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As discussed above, independent claims 1, 10, 23, 30 and 32 are now in condition for allowance. Applicants submit that claims 2-9, 11-14, 24-29, 31 and 33 are therefore allowable by virtue of their dependence on allowable independent claims, as well as by virtue of the features recited therein. Applicants therefore respectfully request withdrawal of the rejections and allowance of these claims.

Conclusion

Given the above amendments and accompanying remarks, all claims pending in the application are in condition for allowance. If the undersigned attorney has overlooked a teaching in any of the cited references that is relevant to allowance of the claims, the Examiner is requested to specifically point out where such teaching may be found. Further, if there are any informalities or questions that can be addressed via telephone, the Examiner is encouraged to contact the undersigned attorney at (206) 292-8600.

Charge Deposit Account

Please charge our Deposit Account No. 02-2666 for any additional fee(s) that may be due in this matter, and please credit the same deposit account for any overpayment.

Respectfully submitted,

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